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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,538	01/12/2006	Guofu Zhou	NL 030861	9493
24737 7590 03/30/2009 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
SITTA, GRANT				
ART UNIT		PAPER NUMBER		
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/564,538

**Applicant(s)**

ZHOU ET AL.

**Examiner**

GRANT D. SITTA

**Art Unit**

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 1/12/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claim 1 is objected to because of the following informalities: claim 1 states, "a second data-independent shaking portion (S2) being data-independent and subsequently" Appropriate correction is required. The current placement of "subsequently" could be misleading. Examiner suggests "a second subsequent data-independent shaking portion (S2) being data-independent, and..." or "a second data-independent shaking portion (S2) being data-independent, and subsequently...".

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art, hereinafter referred to as AAPA, in view of Machida et al (6,753,844) hereinafter, Machida.

6. In regards to claim 1, AAPA teaches an electrophoretic display panel (1), for displaying a picture corresponding to image information, comprising:

a plurality of pixels (2), each containing an amount of an electrophoretic material comprising charged particles (6, 7), being dispersed in a fluid (11) (**fig. 1 7 and 6**);

a first and a second electrode (8, 9) associated with each pixel (4) for receiving a potential difference as defined by an update drive waveform (**fig. 1 8 and 9**); and

drive means (10), for controlling said update drive waveform of each pixel (4) (**fig. 1 (10)**);

wherein the charged particles (6,7), depending on the applied update drive waveform, are able to occupy a position being one of extreme positions near the electrodes (8,9) and intermediate positions in between the electrodes (8,9) for displaying the picture, and wherein said update drive waveform [0005] essentially comprises:

a first shaking portion (S1), being data-independent (**fig. 2 S1**),

a reset portion (R), during which a reset signal is applied over the pixel (**fig. 2 R**),

a second data-independent shaking portion (S2) being data-independent and subsequently (**fig. 2 S2**)

a driving portion (D), during which a picture potential difference is applied over the pixel for enabling the particles (6, 7) to occupy the position corresponding to the image data information,

AAPA differs from the claimed invention in that AAPA does not disclose that the polarity of said first shaking portion (S1) is opposite the polarity of the second shaking portion (S2).

However, Machida teaches a system and method characterized in that a polarity of a first shaking portion (S1) is opposite a polarity of a second shaking portion (S2). (fig. 9 opposite shaking pulse).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify AAPA to have the polarity of said first shaking portion (S1) be opposite the polarity of the second shaking portion (S2) as taught by Machida in order to conserve power and to properly assure the pixels do not coagulate as stated in (col. 26, lines 1-9 of Machida).

7. In regards to claim 11, AAPA teaches a drive means for driving an electrophoretic display device, the device comprising a plurality of pixels (2) (**fig. 1 (5)**), each containing an amount of an electrophoretic material comprising charged particles (**6, 7**) being dispersed in a fluid (11), and a first and a second electrode (**8, 9**) associated with each pixel (4) for receiving a potential difference as defined by an update drive waveform **[0005]**,

the drive means being arranged to control the update drive waveform, wherein the update drive waveform comprises **[(0005] and fig. 2):**

a first shaking portion, being data independent (**fig. 2 S1**),

a reset portion (R), during which a reset signal is applied over the pixel (**fig. 2 R**),

a second data-independent shaking portion (**S2**) being data-independent and subsequently enabling the particles (**6, 7**) to occupy the position corresponding to image data information **[0005]**.

AAPA differs from the claimed invention in that AAPA does not disclose that the polarity of said first shaking portion (S1) is opposite the polarity of the second shaking portion (S2)

However, Machida teaches a system and method characterized in that a polarity of a first shaking portion (S1) is opposite a polarity of a second shaking portion (S2). (fig. 9 opposite shaking pulse).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify AAPA to have the polarity of said first shaking portion (S1) be opposite the polarity of the second shaking portion (S2) as taught by Machida in order to conserve power and to properly assure the pixels do not coagulate as stated in (col. 26, lines 1-9 of Machida).

8. In regards to claim 2, AAPA as modified by Machida teaches an electrophoretic display panel as in claim 1, wherein each of the shaking portions (S1, S2) comprises an even number of shaking pulses (fig. 2 S1 and S2 pulses AAPA).

9. In regards to claim 3, AAPA as modified by Machida teaches an electrophoretic display panel as in claim 1, wherein the update drive waveform further comprises an

additional drive pulse (DP) after the second shaking portion (S2) (fig. 2 G2 pulse after S2 AAPA).

10. In regards to claim 4, AAPA as modified by Machida teaches electrophoretic display panel as in claim 3, wherein said update drive waveform is arranged to be used for transitions from one greyscale to the same grayscale (fig. 2 B to B last pulse after S2 AAPA).

11. In regards to claim 5, AAPA as modified by Machida teaches an electrophoretic display panel as in claim 3, where the additional drive pulse (DP) has a polarity such as to move the particles (6,7) towards an extreme optical state being closest to their present optical state (fig. 2 B to B and pulses after S2 AAPA).

12. In regards to claim 6, AAPA as modified by Machida teaches an electrophoretic display panel as in claim 1, wherein the update drive waveform further comprises an additional reset pulse (RP) before said second shaking portion (S2) and an additional drive pulse (DP) after second shaking portion (S2) (fig. 2 G2 pulses and pulses after S2 AAPA).



13. In regards to claim 7, AAPA as modified by Machida teaches an electrophoretic display panel as in claim 6, wherein said additional reset pulse (RP) (fig. 2 one of the pulses of S2 AAPA) and said additional drive pulse (DP) have opposite polarity (fig. 9 opposite shaking pulse Machida).

14. In regards to claim 8, AAPA as modified by Machida teaches an electrophoretic display panel as in claim 6, where the additional drive pulse (DP) (fig. 2 last pulse of S2 AAPA) has a polarity such as to move the particles (6,7) towards an extreme optical state being closest to their present optical state (fig. 9 opposite polarities of Machida).

15. In regards to claim 9, AAPA as modified by Machida teaches an electrophoretic display panel as in claim 6, wherein said additional reset pulse (RP) and said additional drive pulse (DP) are of equal length (fig. 2 first and last pulse of S2 AAPA).

16. In regards to claim 10, AAPA as modified by Machida teaches an electrophoretic display panel as in claim 6, wherein said additional drive pulse (DP) is longer than said additional reset pulse (RP) (fig. 2 W to G1 DP is longer than first S2 of AAPA) .

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT D. SITTA whose telephone number is (571)270-1542. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/  
Supervisor Patent Examiner, Art Unit 2629

/Grant D Sitta/  
Examiner, Art Unit 2629  
March 19, 2009